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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,169	09/08/2003	Hong-Bin Hsu	SUND 476	1341

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EXAMINER

EISEN, ALEXANDER

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/656,169

Applicant(s)

HSU ET AL.

Examiner

Alexander Eisen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-20 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 6 is objected to because of the following informalities: claim recites: "wherein the priming pulses are output by the sustain electrodes and the scan electrodes alternately". None of the figures or specs disclose that feature of the claim. The Specification discloses only sustain pulses output by the sustain electrodes and the scan electrodes alternately. Apparently it was meant to be - - wherein the [[priming]] sustain pulses are output by the sustain electrodes and the scan electrodes alternately - -. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Makino, US 6,414,654 B1.

With respect to claim 1 Makino discloses a method for driving a plasma display panel, wherein the plasma display panel (as in FIGS. 1 and 2) comprises a plurality of display cells 20, with each of the display cells comprising a sustain electrode 13, a scan electrode 12, and a data

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electrode 19, wherein each set of the sustain electrodes, scan electrodes, and data electrodes has a corresponding driving circuit to provide a required driving waveform for driving the display cell to luminesce, wherein the method (FIG. 3) includes the steps of applying a first erase pulse 21; applying a priming pulse 22; applying a second erase pulse 23; applying data pulses 27, wherein the data pulses correspond to the display cell; and applying a plurality of sustain pulses 25-26 and a plurality of high frequency driving pulses (see FIGS. 6-11 modifying prior art by an addition of high frequency pulses; col. 4, line 66 – col. 5, line 9).

As pertaining to claim 2, the first erase pulse 21 and the second erase pulse 23 are output by the scan electrodes 12, as can be seen from FIG. 3.

As pertaining to claim 3, the priming pulse 22 is output by the sustain electrodes 13 and the scan electrodes, respectively.

As pertaining to claim 4, the priming pulse output by the sustain electrodes and the priming pulse output by the scan electrodes are of opposite polarity (see FIG. 3).

As pertaining to claim 5, the data pulses 27 are output by the data electrodes 19.

As pertaining to claim 6, the sustaining pulses are output by the sustain electrodes and the scan electrodes alternately

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (henceforth APA) in view of Konoue et al., JP 10-171399, hereafter Konoue..

With respect to claim c APA discloses a method for driving a plasma display panel, wherein the plasma display panel (as in FIGS. 1 and 2; paragraphs [0002-5]) comprises a plurality of display cells, with each of the display cells comprising a sustain electrode, a scan electrode and a data electrode, wherein each set of the sustain electrodes, scan electrodes, and data electrodes has a corresponding driving circuit to provide a required driving waveform for driving the display cell to luminesce, wherein the method includes the steps of applying a first erase pulse; applying a priming pulse; applying a second erase pulse; applying data pulses, wherein the data pulses correspond to the display cell; and applying a plurality of sustain pulses.

APA fails to teach the step of applying a plurality of high frequency pulses.

Konoue teaches an improvement in a method of driving a plasma display, wherein a plurality of high frequency pulses 100 are applied during application of sustain pulses 101 (see English abstract; FIGS. 1, 5-7 and 9-10).

It would have been obvious to one of ordinary skill in the art at the time when the invention was made to use the technique proposed by Konoue in the display driving method in APA, because it improves the luminance efficiency of the latter (see last two lines of the abstract).

As pertaining to claim 2, APA teaches that the first erase pulse and the second erase pulse are output by the scan electrodes.

As pertaining to claim 3, APA further teaches that the priming pulse is output by the sustain electrodes and the scan electrodes, respectively.

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As pertaining to claim 4, APA teaches that the priming pulse output by the sustain electrodes and the priming pulse output by the scan electrodes are of opposite polarity.

As pertaining to claim 5, APA teaches that the data pulses are output by the data electrode.

As pertaining to claim 6, APA discloses that the priming pulses are output by the sustain electrodes and the scan electrodes alternately.

Allowable Subject Matter

7. Claims 8-20 are allowed.

8. The following is an examiner's statement of reasons for allowance: none of the references, either singularly or in combination, teach or fairly suggest a method for driving a plasma display having a data electrode for outputting data pulses and a plurality of high frequency driving pulses; wherein the data electrode outputs the high frequency driving pulses at the same time while the sustain electrode and the scan electrode output the sustain pulses.

Suzuki, JP 2003-140598, discloses a plasma display driving method with application of RF voltage to data electrodes during sustain interval, but is not prior to the invention according to the US Patent Law.

Tessier, US 6,819,055 B2, discloses driving plasma display device using applying high frequency voltage during sustain interval.

None of the above teaches the feature of outputting high frequency pulses by the data electrode during the sustaining period.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior teaches an application of high frequency pulses by data electrode.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Eisen whose telephone number is (571) 272-7687. The examiner can normally be reached on M-F (9:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alexander Eisen
Primary Examiner
Art Unit 2674

15 March 2006